

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,683,389 B2
APPLICATION NO. : 09/938101
DATED : January 27, 2004
INVENTOR(S) : Geis

Page 1 of 12

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

The title page showing the illustrative figure should be deleted to be replaced with the attached title page.

Drawing sheets, consisting of figs. 1-10, should be deleted to be replaced with the drawing sheets, consisting of figs. 1-10, as shown on the attached page.

Signed and Sealed this

Fifth Day of February, 2008

A handwritten signature in black ink, reading "Jon W. Dudas". The signature is stylized, with a large loop for the "J" and a cursive "Dudas".

JON W. DUDAS
Director of the United States Patent and Trademark Office

(12) **United States Patent**
Gels

(10) Patent No.: **US 6,683,389 B2**
(45) Date of Patent: **Jan. 27, 2004**

(54) **HYBRID ELECTRIC VEHICLE DC POWER GENERATION SYSTEM**

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(73) Assignee: **Capstone Turbine Corporation, Chatsworth, CA (US)**

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(21) Appl. No.: 09/938,101

(22) Filed: Aug. 23, 2001

(65) Prior Publication Data

US 2002/0070557 A1 Jun. 13, 2002

Related U.S. Application Data

(63) Continuation of application No. 09/609,099, filed on Jun. 30, 2000, now abandoned.

(51) Int. Cl.⁷ F02N 11/06

(52) U.S. Cl. 290/40 C; 180/65.2

(58) Field of Search 180/65.2; 322/16;
290/40 R

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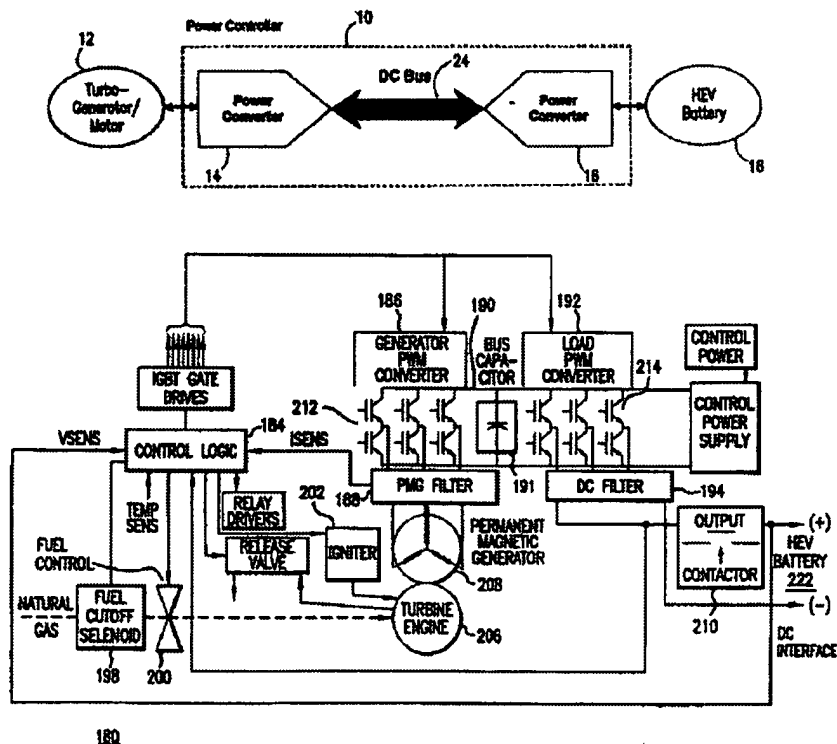
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(57) **ABSTRACT**

A hybrid electric vehicle, such as a bus or delivery vehicle, includes batteries and a turbogenerator/motor connected through a double conversion control system. The batteries and the turbogenerator/motor are each connected to a DC bus through bi-directional power converters operating as customized bi-directional switching converters configured, under the control of a power controller, to provide an interface between the DC bus and the batteries and turbogenerator/motor, respectively.

7 Claims, 10 Drawing Sheets



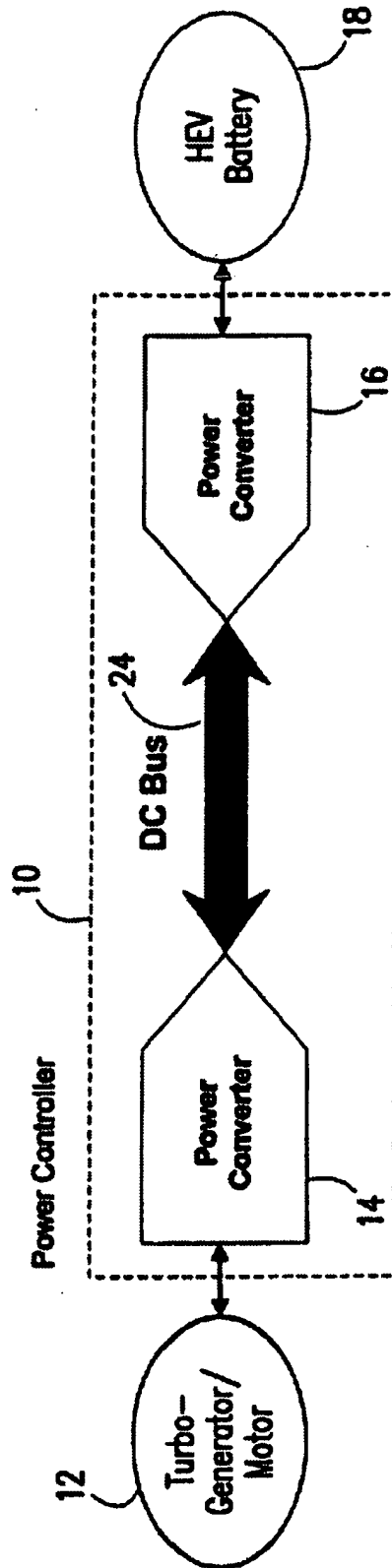


FIG. 1

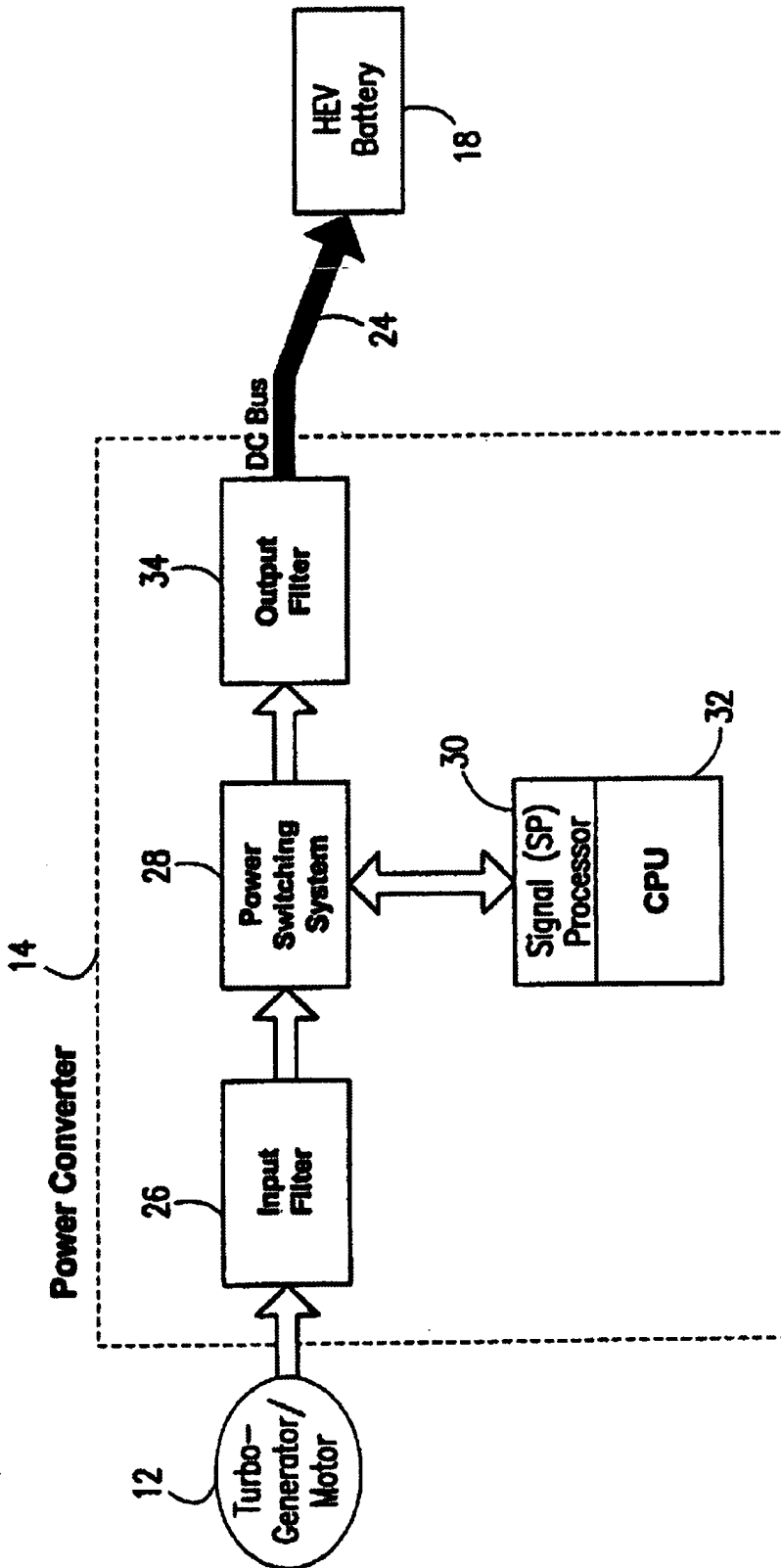


FIG. 2

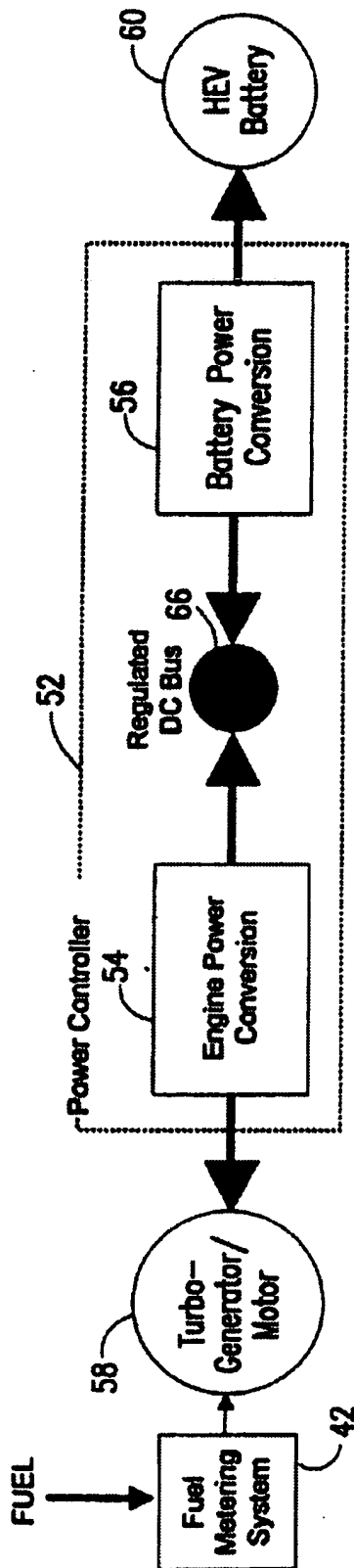
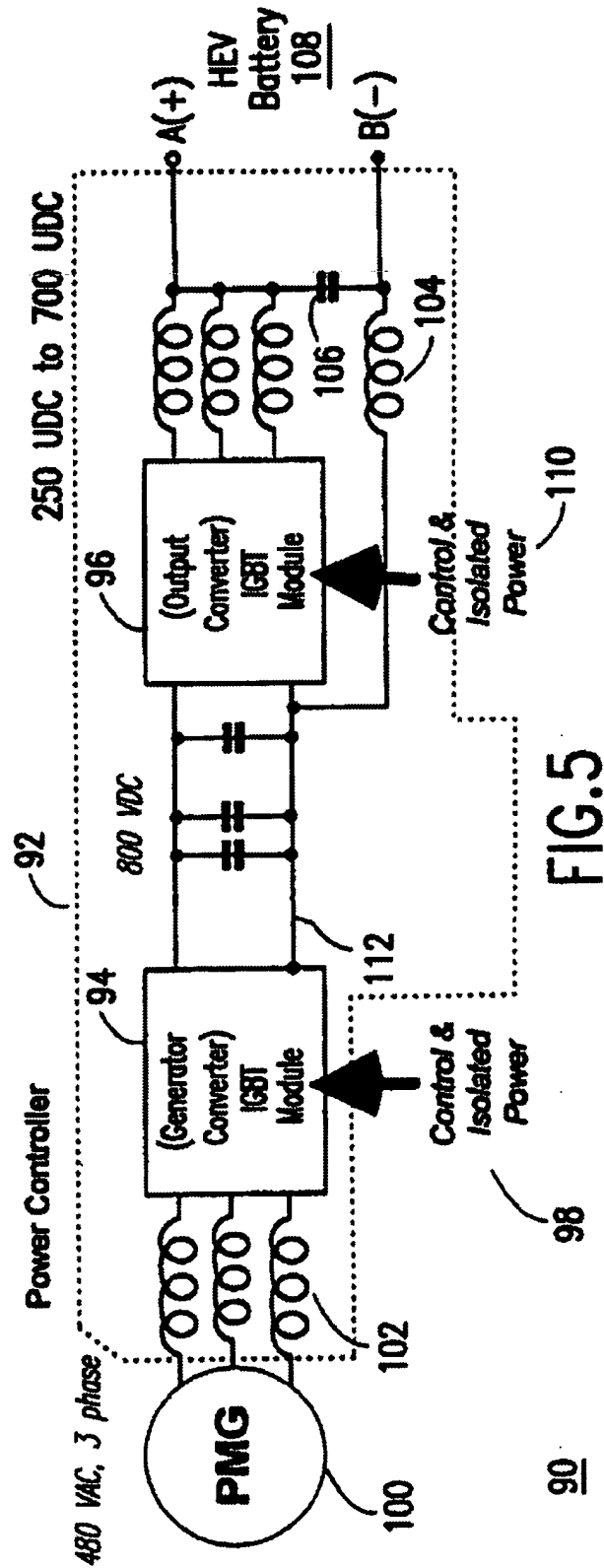
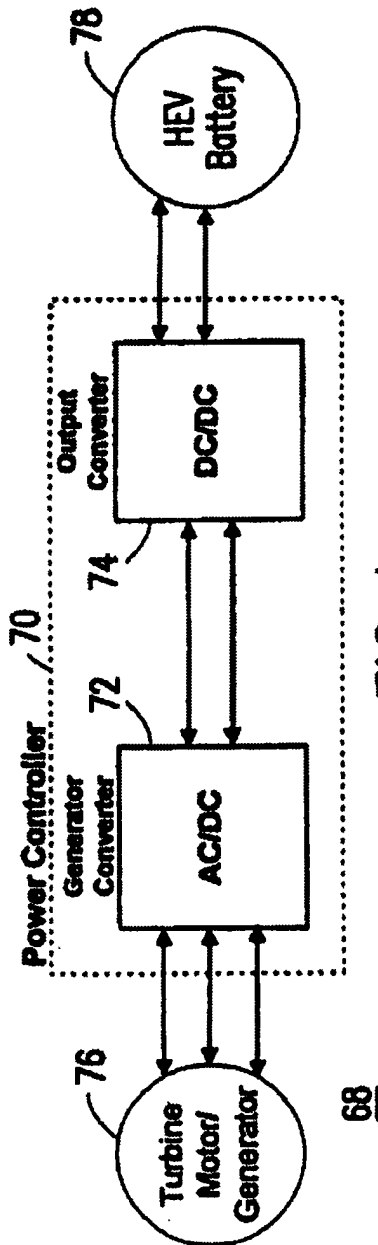


FIG. 3

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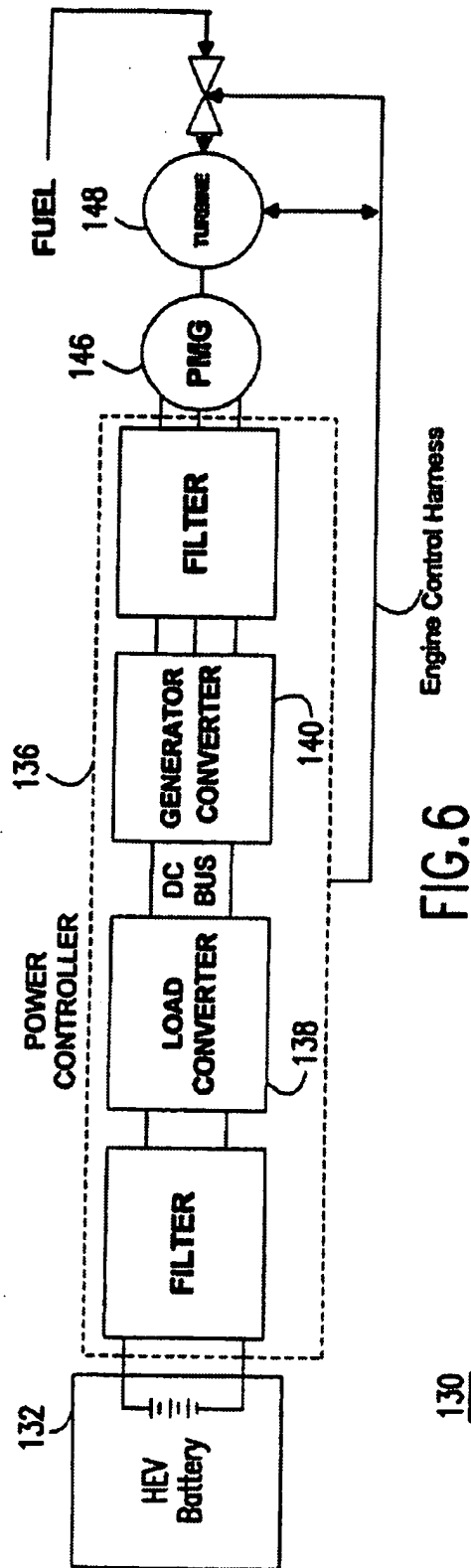


FIG. 6

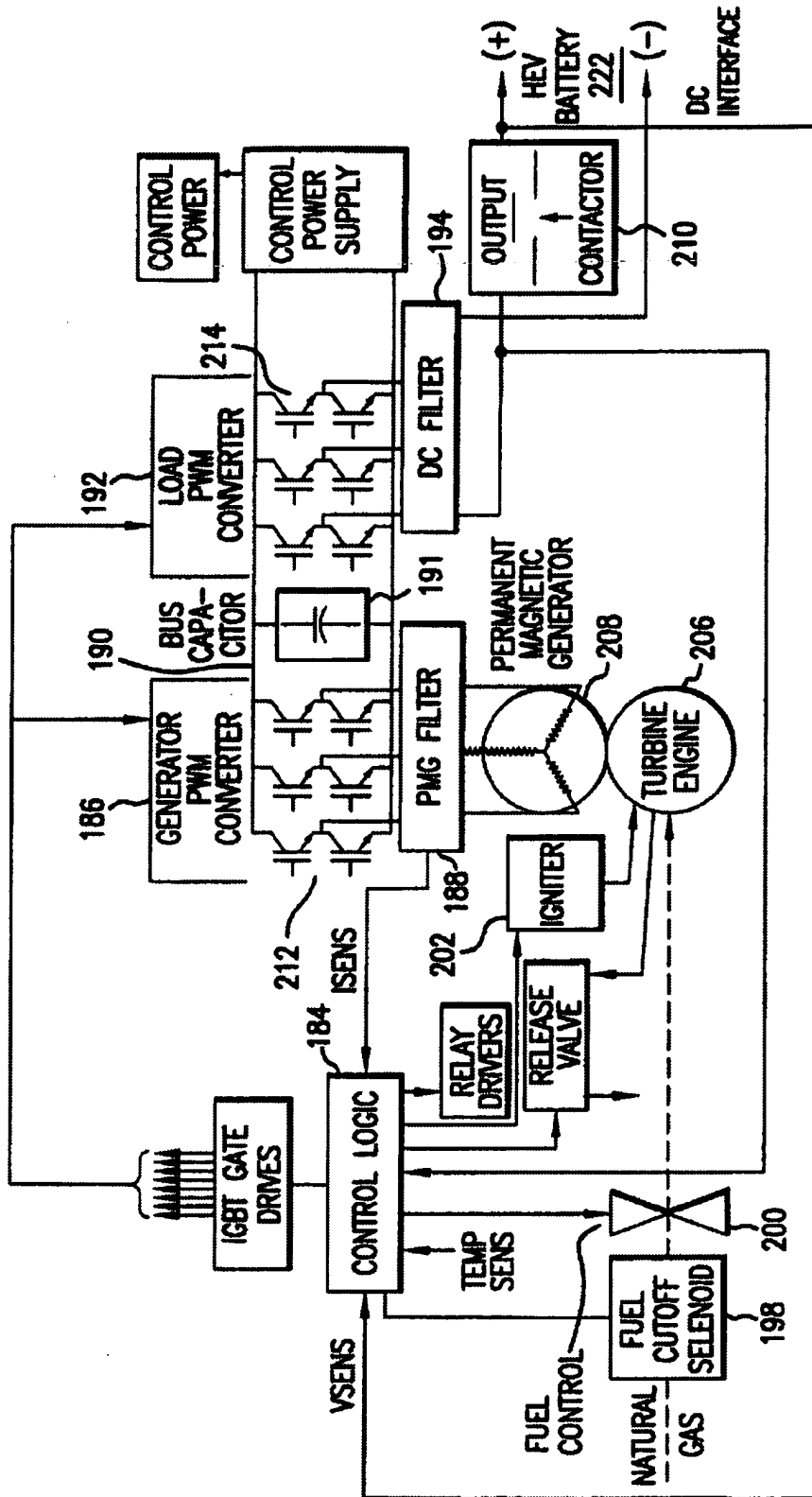


FIG. 7

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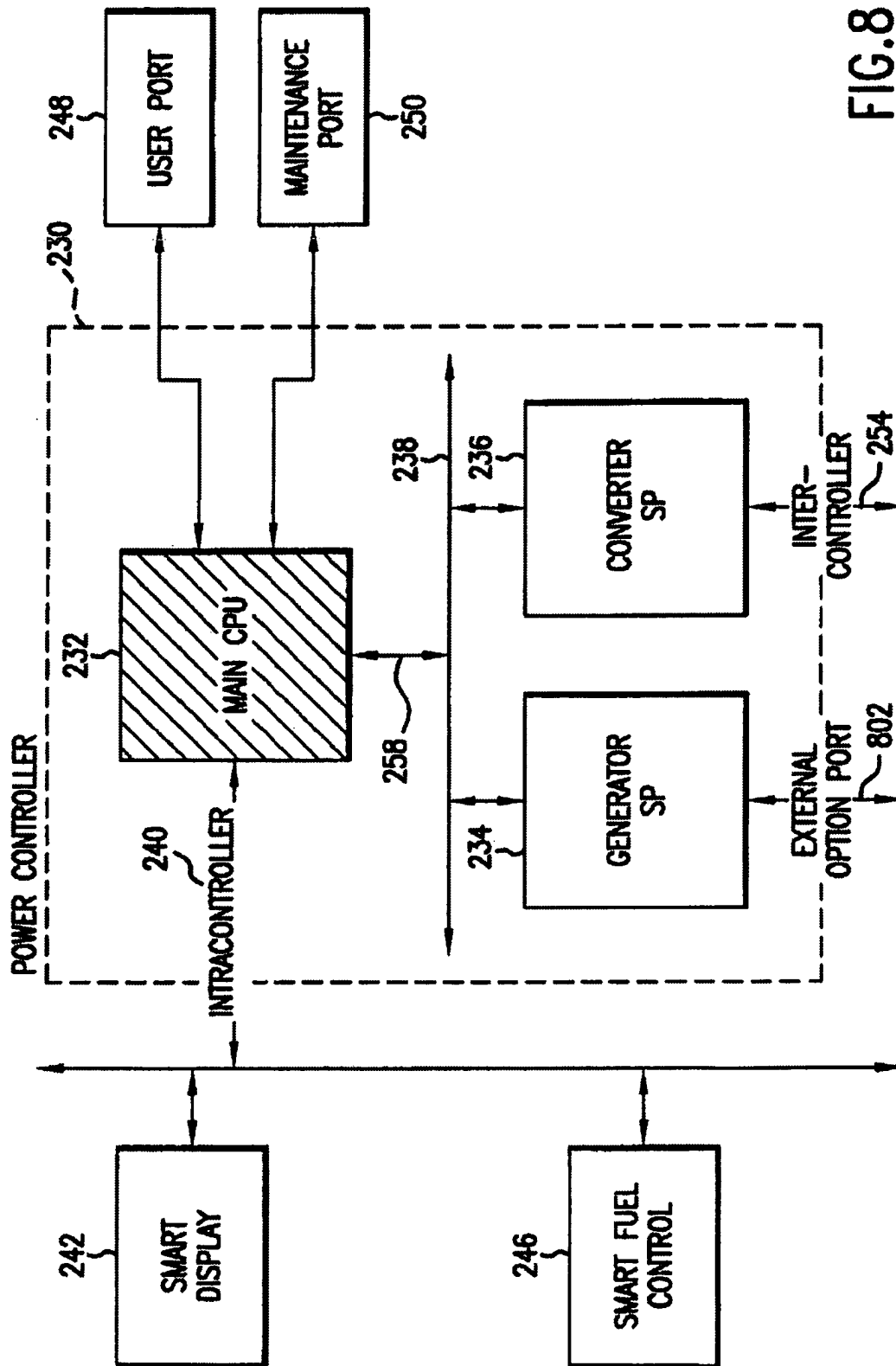
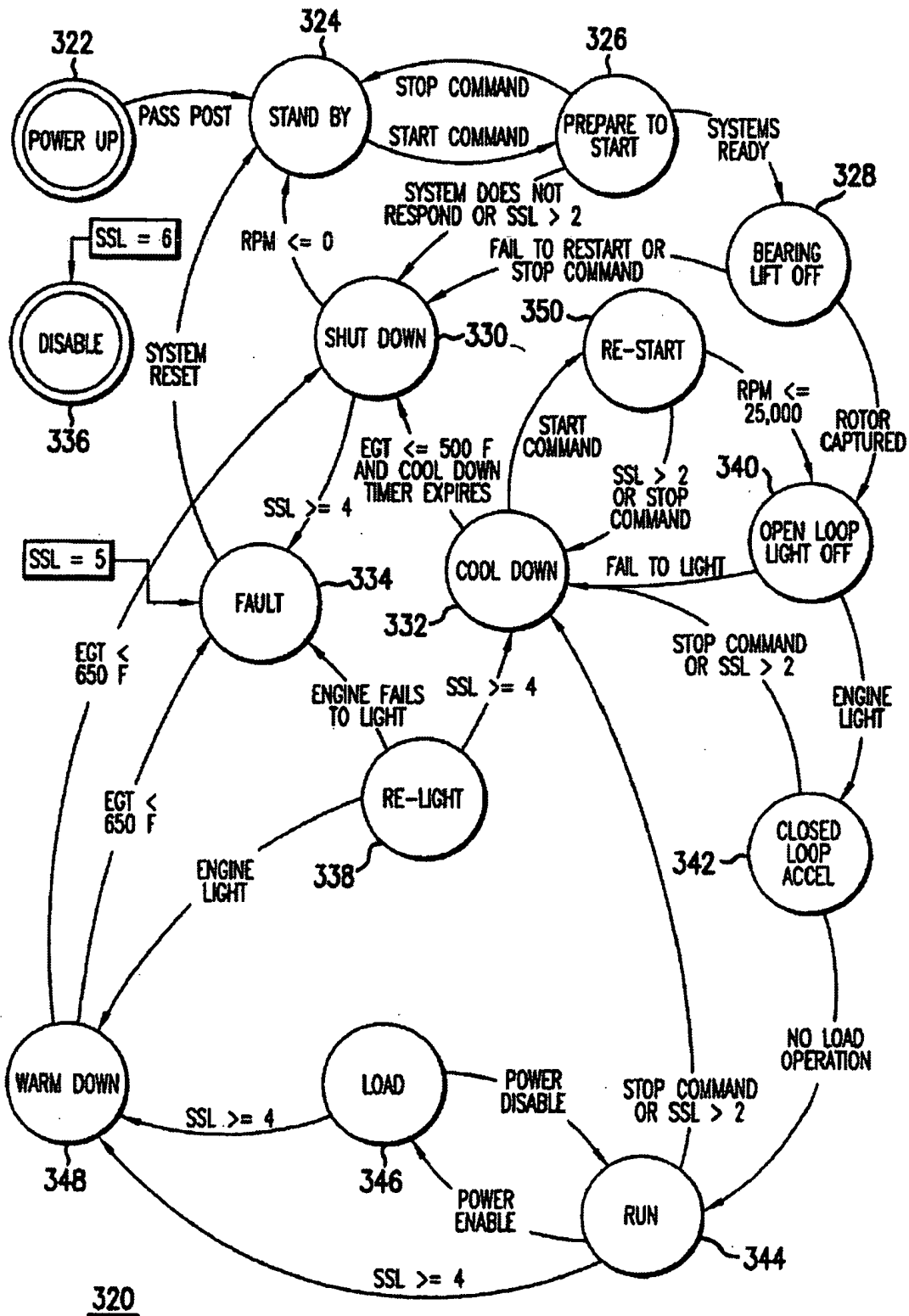


FIG. 8



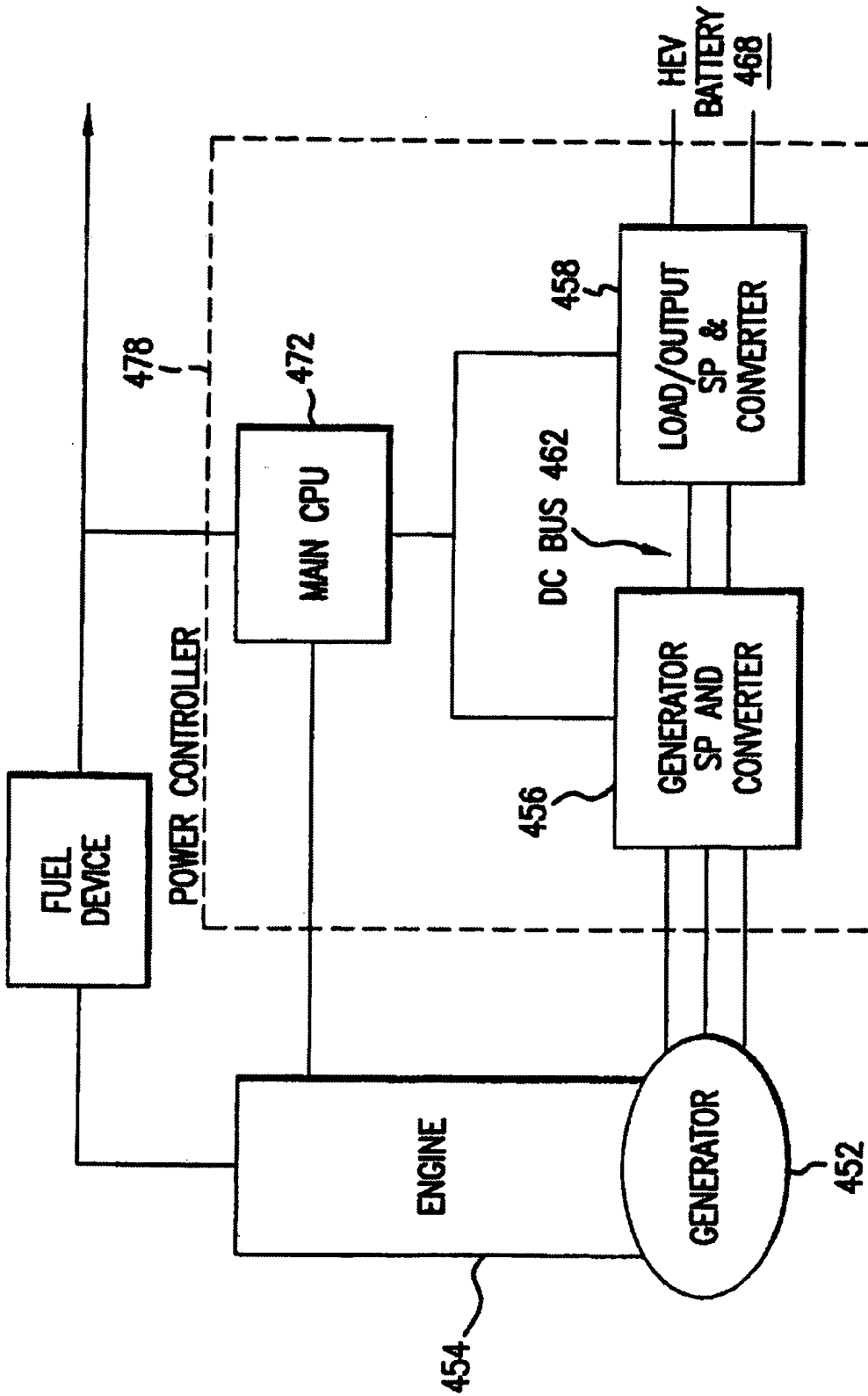


FIG.10

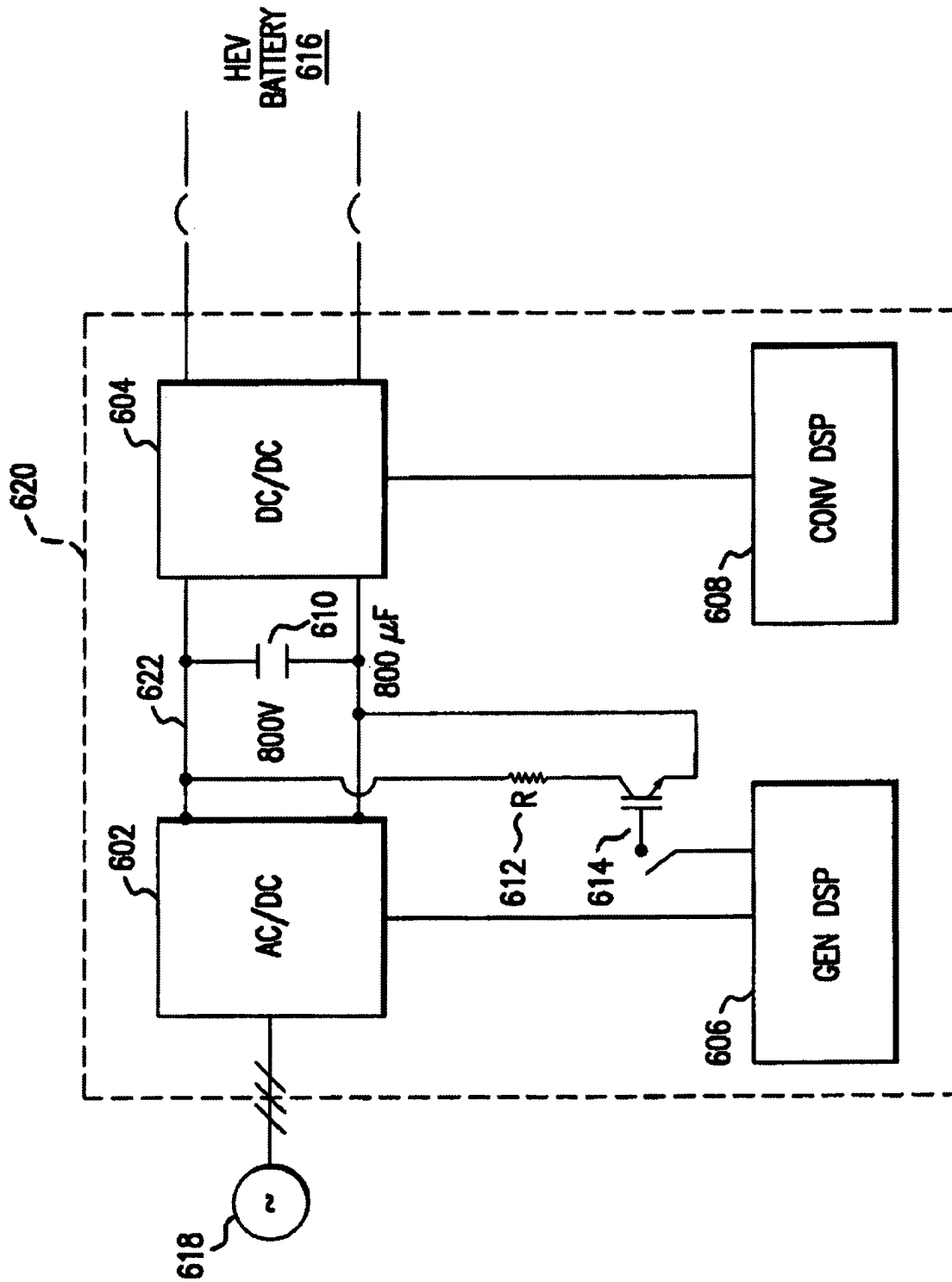


FIG. 11